



KEY WORDS

- ✓ AT/RT
- ✓ EZH2
- ✓ MALAT1
- ✓ PRC2
- ✓ LncRNA

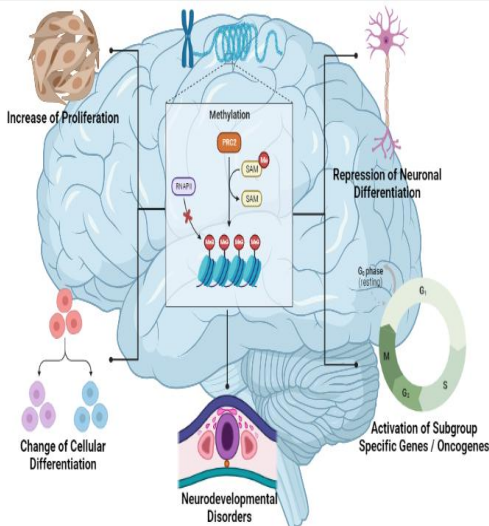
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INVESTIGATION OF THE REGULATORY EFFECTS OF LONG NON-CODING RNAs ON POLYCOMB SUPPRESSOR COMPLEX 2 IN ATYPICAL TERATOID RHABDOID TUMOR IN VITRO AND RETROSPECTIVELY

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GRADUATION DATE: 10/01/2025

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THESIS ABSTRACT

Atypical teratoid / rhabdoid tumor is a rare and aggressive pediatric brain tumor of the central nervous system. The main event in the AT/RT pathogenesis is the abnormal production of the PRC2 subunit EZH2, which is antagonistic to this protein, as a result of the loss of the gene encoding the SMARCB1 protein, a member of the SWI/SNF chromatin remodeling complex, and the accumulation of H2K27me3 in the tumor suppressor gene regions. In order to prevent the accumulation of H3K27me3, an EZH2 inhibitor tazemetostat compound is known, phase studies of which are ongoing. In the current thesis, it is aimed to identify the lncRNAs bound to EZH2 and to investigate the properties that change with the inhibition of lncRNA MALAT1 by comparing it with tazemetostat. As a result, the importance of PRC2-mediated lncRNA regulation for a rare brain tumor AT/RT has been evaluated for the first time in terms of aggressiveness and clinicopathology.

APPLICATION AREAS OF THE THESIS RESULTS

lncRNA MALAT1 has been shown to be bound to the PRC2 complex in AT/RT disease and its potential as a therapeutic target for treatment has been determined.

ACADEMIC ACTIVITIES

Projects Carried Out Within the Scope of the Thesis:

BUU BAP TGA-2023-1517, THIZ-2024-1791, TÜBİTAK 1002-B 124Z647Oral Presentation:

1. 16. International Medical and Health Sciences Research Congress (UTSAK)
Title: Inhibition of MALAT1 Suppresses Invasion in Medulloblastoma Cells
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